Alabama Center for Paper and Bioresource Engineering

Faculty

Marko Hakovirta (Center Director and Research Professor of ChE) 334-844-7829, mjh0032@auburn.edu
Pulp and paper; bioresource engineering; biorefining; advanced and sustainable manufacturing; novel forest-based biomaterials; nanomaterials processing and applications.

Sabit Adanur (Professor of PFE) 334-844-5497, adanusa@auburn.edu
Polymer composites and processing, engineered fibers, yarns and fabrics design, manufacturing, testing and analysis, nanotechnology, computer aided design and modeling, fabric formation processes and machinery, extrusion, injection molding, computer-aided design.

Arthur Gary Appel (Alumni Professor and Chair of Entomology and Plant Pathology), 334-844-2562, appelag@auburn.edu
Urban entomology, structural pests, insect physiology and behavior.

W. Robert Ashurst (Associate Professor of ChE) 334-844-2559, ashurwr@auburn.edu
Micro-and nano-electromechanical systems design, fabrication and reliability; micro-and nano-tribology; molecularly thin film synthesis and design; novel thin film processing; surface science; and semiconductor materials processing.

Maria Auad (Associate Professor and Interim Chair of PFE) 334-844-5459, auad@auburn.edu
Polymer nanocomposites, Shape Memory Polymers, Transparent and high Impact polymer systems. Polymers for structural & biomedical applications. Flow behavior of polymers. Control of microstructures & nanostructure in materials. Interpenetrating polymer networks, flow behavior, rheology, biomedical use.

Gisela Buschle-Diller (Professor of PFE), 334-844-5468, buschgi@auburn.edu
Biopolymers for medical applications, natural fibers and polymers from renewable resources, application of engineered enzyme systems, hydrogels, electrospinning, coloration, surface modifications.

Robert Chambers (Professor of ChE), 334-844-2054, chambro@auburn.edu
Biochemical engineering; biofuels; bioresource engineering; biomedical engineering; pharmaceutical and environmental biotechnology.

Bryan Chin (Professor and Chair of MatE), 334-844-3322, chinbry@auburn.edu
Welding and joining, infrared sensing techniques, welding of highly irradiated materials in power producing reactors, adaptive materials, fabrication and manufacture for PZT and shape memory alloys, sensor development, biological agent detection. phage and antibody based MEMS sensors for security and medical application, mechanical lifetime
prediction, evaluation and development of stress to rupture design equations and end of life criteria for nuclear core materials, environmental degradation of materials.

Patricia A. (Pat) Curtis (Professor of Poultry Science and Director of Food Systems Initiative), 334-844-2679, curtipa@auburn.edu
Quality and safety attributes of poultry and egg products.

Allan E. David (John Brown Assistant Professor of ChE) 334-844-8119, aed0022@auburn.edu
Structure-property relationship of nanomaterials; elucidating and controlling the interaction of nanomaterials with biological systems; drug delivery; "smart" nanomaterials; theranostics; nanocomposites; hierarchical structure control by self-assembling nano-systems.

Virginia Davis (Sanders Associate Professor of ChE), 334-844-2060, davisva@auburn.edu
Nanorod liquid crystals, macroscopic applications of single-walled carbon nanotubes (SWNTs), structure-processing-property relationships in polymer nanocomposites, and rheological characterization of nanomaterials, antimicrobial coatings, nanorods and nanowires, cellulose nanowhiskers.

Mario Eden (McMillan Professor and Dept Chair of ChE), 334-844-2064, edenmar@auburn.edu
Process systems engineering; computer aided process engineering; process integration and optimization; process and product design; sustainable and environmentally benign technologies; optimization of integrated biorefineries; logistical fuel processing systems.

Ram Gupta (Woltosz Professor of ChE), 334-844-2013, guptarb@auburn.edu
Biofuels, hydrogen fuel, nanomedicine, supercritical fluids, nanotechnology, sustainable energy.

Roy Hartfield (Waltosz Professor of AE), 334-844-6819, hartfrj@auburn.edu
Propulsion, aerospace systems optimization using genetic and other algorithms, wind tunnel aerodynamic studies, launch vehicle, missile, propulsion, propeller optimization, non intrusive flow diagnostics.

Tung-shi Huang (Professor of Poultry Science), 334-844-3290, huangtu@auburn.edu
Antibody development, immobilization, food systems

Y.Y. Lee (Uthlaut Professor of ChE) 334-844-2019, leeyoon@auburn.edu
Bioprocessing of lignocellulosic materials for production of fuels and chemicals; bioreactor development for enzyme and microbial process technology; pretreatment/delignification of biomass for enzymatic saccharification and co-fermentation.

Kenneth (Ken) S. Macklin (Associate Professor of Poultry Science and Extension Scientist), 334-844-4225, macklks@auburn.edu
Poultry health, environmental issues and biosecurity; reducing foodborne bacteria and pathogens in poultry.
Ronald Neuman (Professor of ChE), 334-844-0513, neumard@auburn.edu
Surface science and interfacial phenomena; surface characterization of pharmaceutical and bio-relevant particles, fibers and solid surfaces.

Timothy Placek (Assistant Professor), 334-844-2022, placed@auburn.edu
Process design and engineering education.

Mary Robbins (Assistant Research Professor of NCAT), 334-844-7303, mmr0001@auburn.edu
Pavement preservation, pavement management and rehabilitation, and accelerated pavement testing.

Christopher Roberts (Professor of ChE and Dean of Engineering), 334-844-2036, robercr@auburn.edu
Supercritical fluid (SCF) and tunable solvent technologies; nanomaterials synthesis in tunable solvents; heterogeneous and homogeneous reactions in SCFs; fuel synthesis gas-to-liquids technologies.

Anton Schindler (Professor of CE, Director of Highway Research Center), 334-844-6263, schinak@auburn.edu
Self consolidating concrete, nondestructive testing, concrete pavement, hydration modeling of cementitious materials, concrete properties, early age behavior of concrete structures.

Peter Schwartz (Professor of PFE), 334-844-4121, schwartz@auburn.edu
Micromechanics of composite materials, Stochastic modeling of materials behavior, Percolation modeling of flow through porous media, flexible structures, interfacial adhesion.

Steven Taylor (Professor and Dept Head of BSEN), 334-844-3534, taylost@auburn.edu
Bioenergy and bioproducts, feedstock production supply chain, bioenergy conversion methods, and fuel/product testing, structural wood engineering, glued-laminated timbers, modeling material properties, Monte-Carlo simulation of structural performance, timber bridges, forest engineering, water quality impacts from forest roads and stream crossings, alternate stream crossing structures, precision forestry, thrown object testing and rollover behavior of excavator based machines, tillage and site preparation, portable bridge systems, geospatial technologies (GPS and GIS), mapping, site-specific forest and agricultural operations.

Bruce Tatarchuk (Gavin Professor of ChE), 334-844-2023, tatarbj@auburn.edu
Microfibrous materials manufacturing; heterogeneous reactive systems and catalysis; fuel reforming/processing; fuel cell systems; electrochemical systems and electrode materials, technology transition, IP generation, patent disclosure, licensing agreements, integrated systems.

Jin Wang (Assistant Professor of ChE), 334-844-2020, wang@auburn.edu
Manufacturing process modeling, microelectronic and pulp and paper processes; systems biology; metabolic network identification and early cancer detection.

Randy West (Center Director of NCAT), 334-844-6228, westran@auburn.edu
Asphalt mix design, specifications and test methods, quality assurance, automated testing